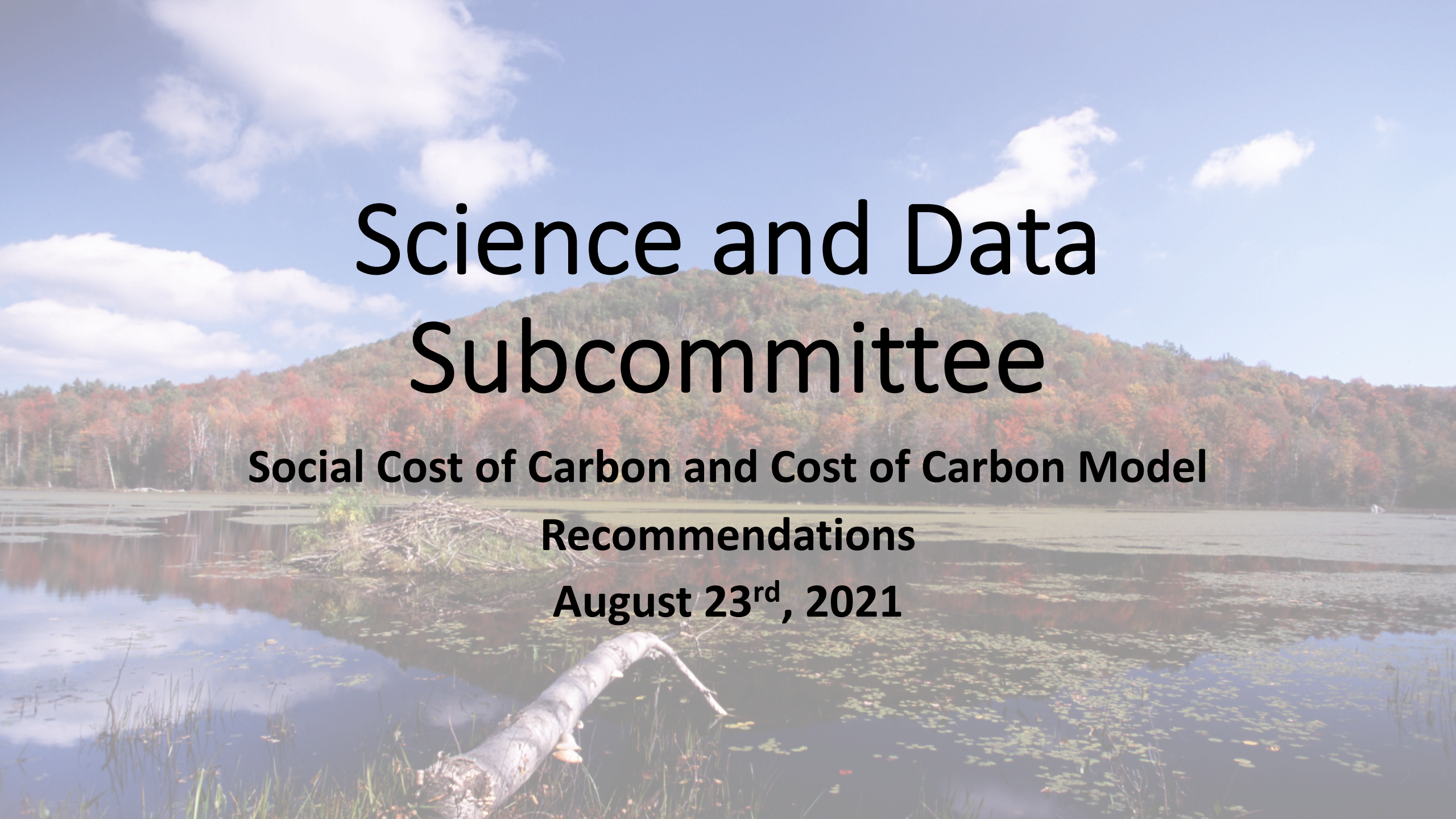


Science and Data Subcommittee

Social Cost of Carbon and Cost of Carbon Model Recommendations

August 23rd, 2021

Science and Data Subcommittee (SDSC) Members and Staff Support

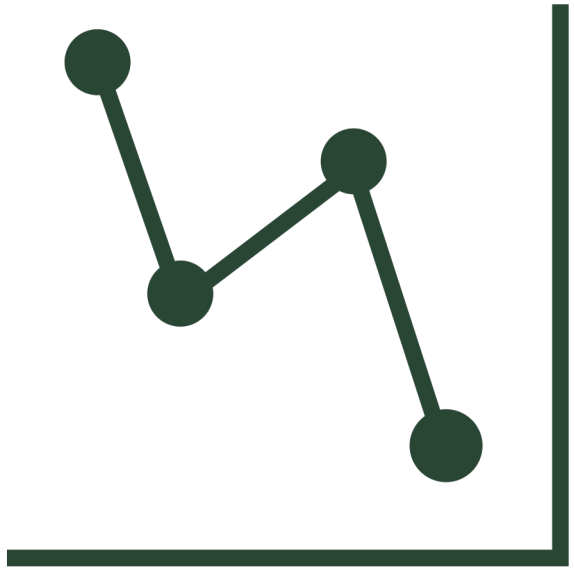
Subcommittee Members:

- **Jared Duval,** Co-Chair, Energy Action Network*
- **TJ Poor,** Co-Chair, Department of Public Service
- **Brian Gray**, Energy Co-op of Vermont*
- **Jason (Jay) Shafer,** Northern Vermont University
- **Julie Moore**, Agency of Natural Resources*
- **Dr. Lesley-Ann Dupigny-Giroux**, University of Vermont*
- **Louis Cecere,** VELCO
- **Richard Hopkins,** CEAC

State Staff Support:

- **Andrea Wright,** Agency of Transportation
- **Bennet Leon,** Department of Environmental Conservation
- **Collin Smythe**, DEC (GHG Task Group)
- **Claire McIlvennie,** Department of Public Service
- **Kenneth Jones**, Agency of Commerce and Community Development (SCC Task Group)
- **John Adams,** Vermont Center for Geographic Information

** Councilor or designee*



Process to Date

Process for Social Cost of Carbon and Cost of Carbon Model Review report:

1. *SDSC Identified needed research and included Social Cost of Carbon and Cost of Carbon Model Review in the Request for Proposals (RFP) as Task 3*
2. *Technical Consultant Energy Futures Group (EFG) met with SDSC task group members (TJ Poor, Jared Duval, Kenneth Jones) to refine research design & lit review.*
3. *EFG produced draft report, presented at 08/11 SDSC meeting, received task group feedback and public comment*
4. *EFG produced revised report, presented at 08/18 SDSC meeting, received public comment. SDSC unanimously agreed to forward EFG report and SDSC recommendations re: SCC to full Council.*

Climate Action Plan Recommendations

Science and Data Subcommittee Recommendations re: Social Cost of Carbon:

1. Value greenhouse gas emissions costs (and avoided costs) by utilizing a **global damage-based estimation of the Social Cost of Carbon (SCC)**, based on models developed for the New York Department of Environmental Conservation (NYDEC) by Resources for the Future.
2. Recognize that the NYDEC guidelines offer a range of possible discount rates that value future damages and costs of those damages and based on polling of the Science and Data Subcommittee and meeting attendees, that it is reasonable to **utilize the SCC that was developed using the central discount rate of 2%.** 2% is one reasonable discount rate to reflect the time value of money from society's perspective.
3. Plan for updating of the SCC and discount rate on a regular basis, considering new research that may be published that impact SCC and application of the discount rate (including federal Interagency Working Group).

Recommendations re: Cost of Carbon Model

1. **Use Cost of Carbon Reduction (CCR) model** as appropriate to cross check and/or provide inputs **for the Low Emissions Analysis Platform (LEAP) and Climate Action Plan (CAP) modeling**.
2. Continue to **maintain and update the accounting for mitigation pathways** to promote transparency and consistency in assumptions. Recognizing that the EFG report calls for the "Cost of Carbon" model to continue to be updated, the Subcommittee recommends that this **accounting could come in the format of the "Cost of Carbon" model that has been created by Department of Public Service, or through other reasonable means**.
3. Initially through technical consultant and to be updated periodically by the State of Vermont, **create a greenhouse gas mitigation technology/policy supply curve that estimates the relative net cost of mitigation policies and/or technologies per ton of *greenhouse gas emissions* saved as well as the potential savings associated with those policies and/or technologies**.

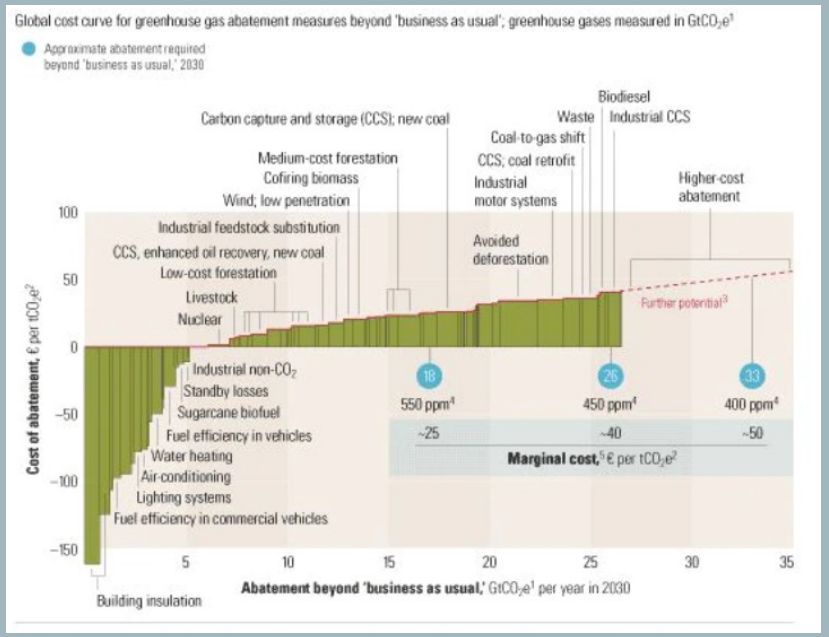


Image: Sample cost curve for GHG reduction (or mitigation supply curve) Source: McKinsey

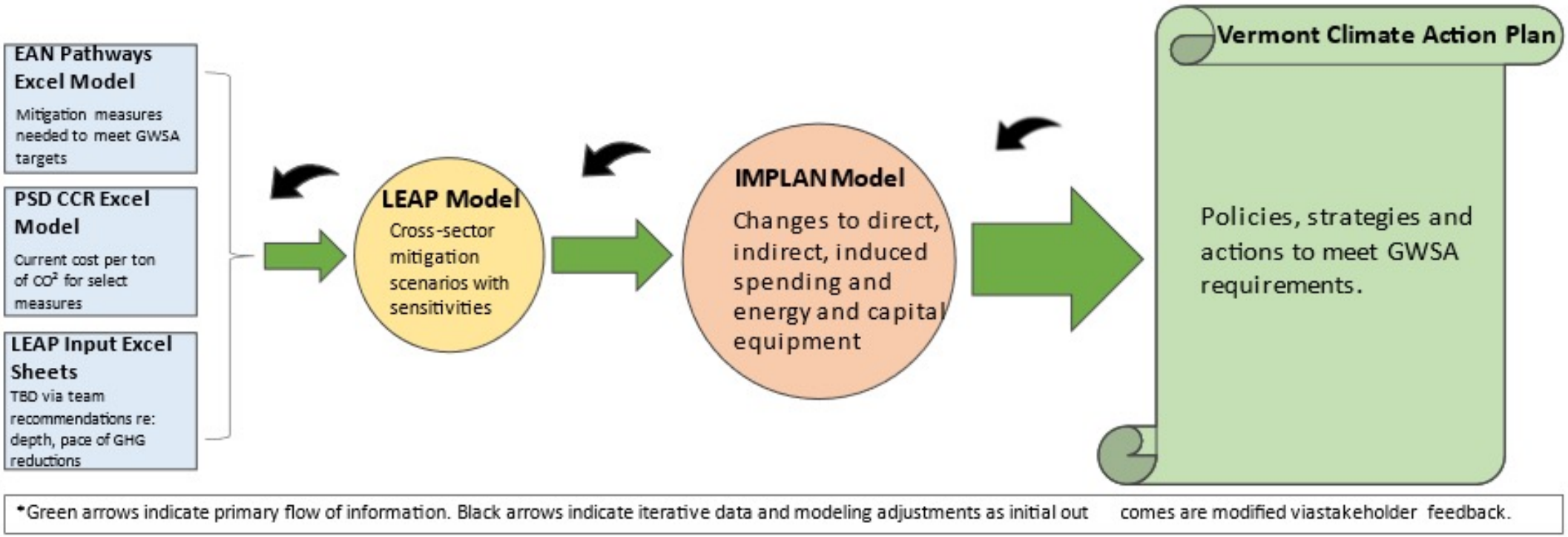
Climate Xchange Report: “Assessment of U.S. Climate Alliance States’ Climate Action Plans”

3. Areas for Improvement

Finally, there are a number of policy options frequently missing from U.S. Climate Alliance state plans that the team identified as high potential areas for improvement. The following policy options offer the potential for high marginal progress, the promotion of public health co-benefits, and improved, informed decarbonization trajectories needed to meet future climate commitments:

- Indoor Air Quality Standards (IAQs)
- Disaster Preparedness and Response Measures
- Socal Cost of Carbon (SCC)
- Benchmarking and Transparency Requirements

Next Steps: Integration with LEAP Modeling and CAP



CADMUS